

B.C. innovation helping to douse Japanese nuclear reactors

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It was originally meant to fight forest fires, but an innovation from a B.C.-based company is being used by the Japanese military to douse water on the country's dangerously overheated nuclear reactors.

Helicopters are using huge fabric buckets to pick up thousands of litres of water at a time on runs from the Pacific Ocean to the Fukushima Daichi reactors -- buckets designed by Delta-based SEI Industries.

"I've seen applications in all parts of the world, on different types of fire, but I never expected we would be seeing this used in a nuclear reactor disaster mitigation," said SEI Industry's Shawn Bethel.

The buckets, known as "Bambi Buckets," were developed by company founder Don Arney in 1982. They have since been sold to over 100 countries, and have gone through many redesigns.

The large, collapsible orange buckets are suspended from the helicopters, and either scoop or suck water up from rivers or oceans. When the helicopter is suspended over the target, it can dump the water at once.

The Bambi Bucket has been a crucial tool in fighting forest fires in B.C.

The Japanese have purchased several dozen buckets since the mid-1990s. They are being used to drop some 7500 litres of water at a time on the reactors until the power can be restored to pumps that usually flush sea water through the reactor cores.

The company estimates each reactor is boiling off about 40,000 litres of water a day -- doable in about 10 runs if the bucket is used properly.

But there's a problem, Bethel said -- the Japanese pilots are flying too high, and they're not staying still to hit the targets.

"A higher drop, combined with forward speed, is going to dissipate the drop a lot," Bethel said. "If it's a hover drop then getting the load closer to the target will result in a more concentrated drop."

Part of the problem is that the Japanese are using lines that are only 25 feet long, he said. Pilots have used lines as long as 150 feet, which would allow much greater accuracy, he said.

The company has found a number of longer lines and plans to donate them to the Japanese military, and also has a trainer on standby to leave to teach the Japanese how to use the lines, Bethel said.

"He is right now ready to dispatch on short notice to Japan and offer the training," he said.

"If they want the training we believe that with half a day or a full day of ground school with 3-4 hours of training they could be ready to do the job," he said.

With a report from CTV British Columbia's Jon Woodward